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COVERING DEVICE FOR COVERING MOUNTING RECESSES IN THE COVER STRIPS  
OF A VEHICLE ROOF

English Translation of International Application

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For an explanation of the two-letter codes and the other abbreviations, reference is made to the explanations ("Guidance Notes on Codes and Abbreviations") at the beginning of each regular issue of the PCT-Gazette.

FIG. 6

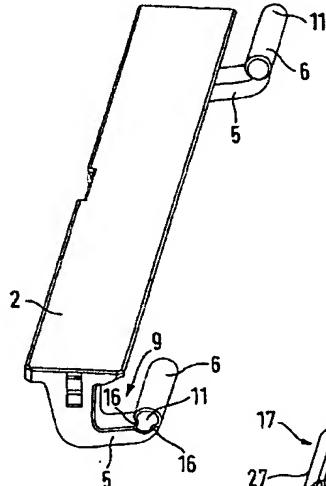
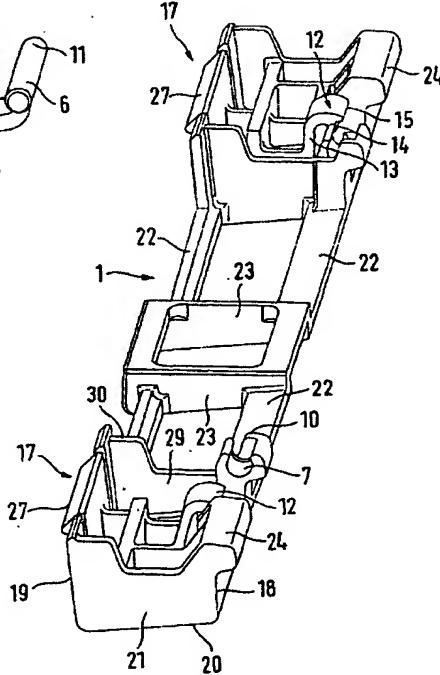


FIG. 7



The invention refers to a covering device for covering mounting recesses in the cover strips of a vehicle roof according to the features in the preamble of Claim 1.

These mounting recesses are provided with cover strips at the locations where anchoring points for possible fastening of the support feet of roof luggage carriers are found in the roof channel beneath. As long as this fastening proposition is not used, the recesses are, as a rule, closed by a corresponding cover, not only for the protection of the fastening site but also for visual reasons.

A generic covering device is known from DE 198 40 294 C2, in which the hinged cover filling the recess in the closed position has bearing journals, projecting in the strip longitudinal direction, which are shaped as a straight extension of the pivoting cover edge. This results in the bearing shells below the recess being located close to the edge of the recess, and the cover, when pivoted up, of necessity narrows the recess corresponding to its cover thickness.

The goal of the invention is to design the generic covering device so that the hinged cover does not hinder access to the recess when open.

This goal is attained according to the invention in that the bearing journals are shaped on the hinged cover via a U-shaped element, which is dimensioned such that the edge of the recess, in the high position of the hinged cover, projects into the open space of the element.

By means of this arrangement of the journal rotation point in the insertion part and the U-shaped formation of the hinged element, the roof strip recess can be almost completely opened. The roof hinge is then tilted back far enough from the recess, in the end catch position, that the feet of the roof luggage carrier can be easily guided to the fastening sites and be fastened there.

Advantageous configurations of the invention are indicated in the subclaims and can be seen from the drawings, which show a preferred embodiment of the invention and which are described in more detail below. The figures show the following:

Figure 1, the cover device according to the invention, with pivoted-down hinged cover, in an oblique view;

Figure 2, a section of the cover strip of a vehicle roof with a covered recess, in a top view;

Figure 3, a cross section through the cover strip, with inserted covering device with a closed hinged cover, according to line III-III in Figure 2;

Figure 4, the same cross section through the cover strip according to line IV-IV in Figure 2;

Figure 5, the same cross section as in Figure 3, with an open hinged cover;

Figure 6, the hinged cover in an oblique top view; and

Figure 7, the corresponding insertion part in oblique top view.

The covering device shown in the figures is used to close a mounting recess 4 in a cover strip 3 of a vehicle roof, as long as the fastening site, found under the recess 4, for a roof luggage carrier is not needed.

This covering device consists of an insertion part 1, which can be positioned in the cover strip 3, and a hinged cover 2, which is supported so that it can pivot around an axis in the longitudinal direction of the cover strip 3, and fills the recess 4 in the closed position. The hinged cover 2 is connected, via a U-shaped element 5 at each end, with bearing journals 6 that are supported so they can pivot in bearing shells 7 shaped on the insertion part 1. The element 5 is shaped such that the edge 8 of the recess, in the high pivoted state of the hinged cover 2, projects into the open space 9 of the U-shaped element 5.

The bearing shells 7 embrace the bearing journals 6 over slightly more than half of their circumference, so that the bearing shells 7 bend apart elastically when the bearing journals 6 are pressed in and then, after the latter squeeze through the opening, spring together again and thereby embrace the bearing journals 6 in a clamping manner. On the sides facing one another, the bearing shells 7 are provided with lateral stop walls 10 by means of which the bearing journals 6 are positioned, after insertion at opposing ends in the longitudinal direction of the bearing shells 7.

The bearing journals 6 have the so-called catch pin 11 on the ends directed away from one another; these work together with the spring elements 12 shaped on the insertion part 1 such that the catch pins 11, in the open and closed positions of the hinged cover 2, so that this cover 2 is held securely in both end positions. In the present embodiment, these spring elements 12 are shaped like spring webs 13 which are formed at one end on the insertion part 1. The other, elastically springy end, is guided in an arc pointing toward the catch pin 11, and shaped on its front side 14 with a catch edge 15 that catches in correspondingly shaped catch grooves 16 in the catch pin 11 in the aforementioned end positions of the hinged cover 2.

The insertion part 1, holding the hinged cover 2, consists of an elongated basic body made of hard elastic plastic, which is built in the following manner:

On both ends, there are bearing bodies 17 with two side walls 18 and 19 and a bottom plate 20 and a front wall 21. These bearing bodies 17 are connected laterally with one another by webs 22, shaped on the bottom plate 20, which are fixed with respect to one another by transverse ribs 23 in the middle.

The bearing bodies 17 are shaped in cross section such that they have a place in the not-shown roof channel below the cover strip, and can be elastically connected to the strip edges 25 and 26, which have been flanged all around toward the inside. For this purpose, hooks 24, which project to the outside, are shaped on the upper edge of a side wall 18, for engaging in the strip edge 25, and on the upper edge of the side wall 19, lying opposite, catch hooks 27 are also shaped in a region slit on both sides, these springing inwards when the insertion part 3 is pressed in and then again catching above the strip edge 26. The other areas of the side wall 19 are dimensioned such that during the latching of the hooks 27 they bear against the cover strip 3 from below.

The two bearing shells 7 are found on the upper edge of the side wall 18 on the sides of the bearing bodies 1 facing one another, whereas the spring webs 13 on a rib 28 in the bearing body 17 are shaped such that the front sides 14 with the catch edges 15, bent outwards, are directed toward the catch pins 11. The distance between the bearing shell 7 and the spring web 13 is dimensioned such that the U-shaped element 5 can pivot in between. The inside transverse wall 29 between the side walls 18 and 19 has a support edge 30 for support of the hinged cover 2 during pivoting into the closed position.

Mounting of the covering device is easy. The insertion part 1 is introduced, from below, with its catching hooks 24, behind the strip edge 25 of the cover strip 3, at an incline, and then pressed upwards with the catch hooks 27 until they latch in the opposite strip edge 26. One has merely to ensure that the hinged cover 2, previously pressed into the bearing shells 7, is oriented centrally in the mounting recess 4 of the cover strip 3.

#### Claims

1. Covering device for a mounting recess in a cover strip of a vehicle roof, consisting of an insertion part (1), which can be positioned in the cover strip (3), and a hinged cover (2), with bearing journals (6), shaped on both ends, which is supported so it can pivot about an axis in the strip longitudinal direction, and which fills the recess (4) in the closed position, with the bearing journals supported in bearing shells (7) shaped on the insertion part (1), and catch pins (11) which can lock in the open and closed positions by means of spring elements (12) which are shaped on the insertion part (1) and act on the catch pins (11), characterized in that the bearing journals (6) are shaped on the hinged cover (2) via a U-shaped element (5), which is dimensioned such that the edge (8) of the recess (4) projects into the open space (9) of the element (5) in the high position of the hinged cover (2).

2. Covering device according to Claim 1, characterized in that the bearing journals (6), facing one another, are supported in a clamping manner in the bearing shells (7), and the bearing journals (6) have catch pins (11) in the opposite direction, which work together with the spring elements (12).

3. Covering device according to Claim 1 or 2, characterized in that the bearing shells (7) are provided with lateral stop walls (10) which ensure positioning of the bearing journals (6) in the longitudinal direction of the cover strip (3).

4. Covering device according to Claim 3, characterized in that the bearing journals (6) are provided with grooves (16), into which correspondingly shaped catch edges (15) on the spring elements (12) catch in the open and closed positions of the hinged cover (2).

5. Covering device according to one of Claims 2-4, characterized in that the spring elements (12) are shaped as arc-shaped spring webs (13) formed at one end on the insertion part (1)

and guided around, with the other end pointing toward the catch pins (11), wherein the catch edges (15), catching in the grooves (16), are formed on the front sides (14) of the elastically springy ends.

FIG.1

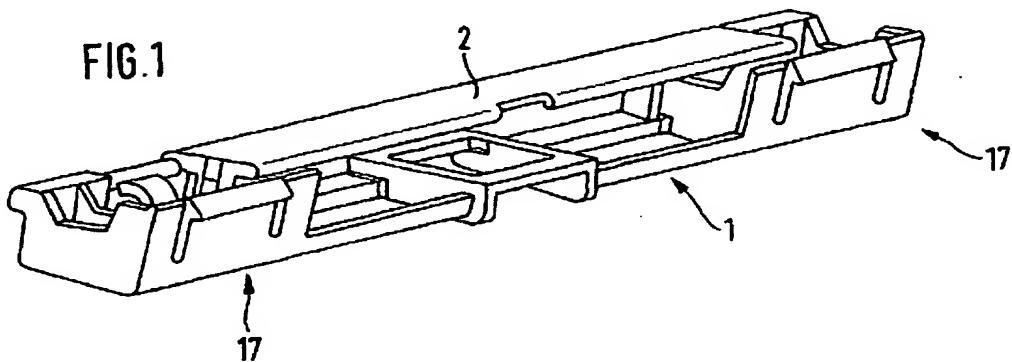


FIG.2

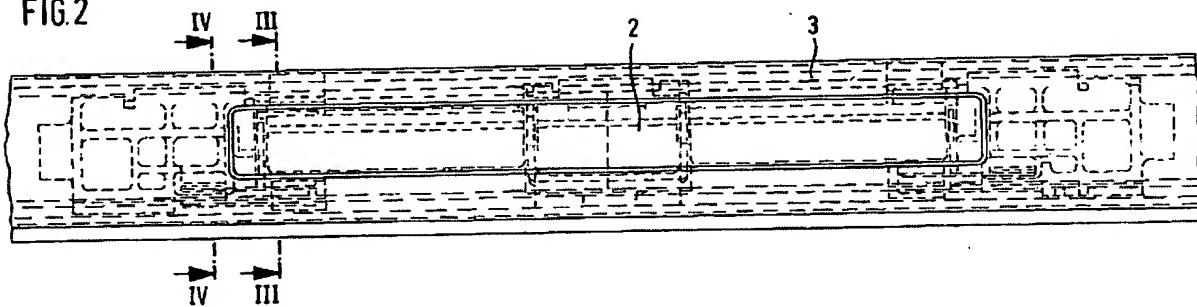


FIG.3

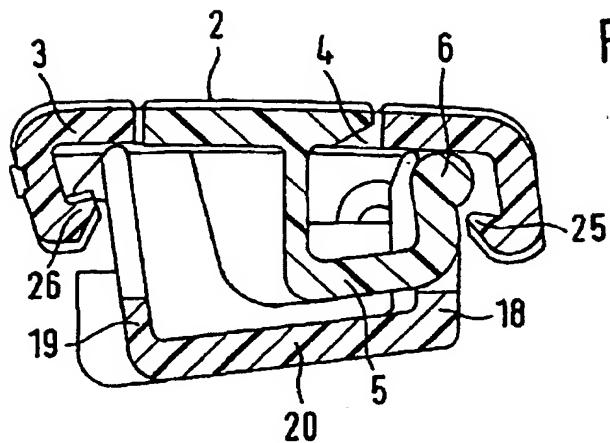


FIG.4

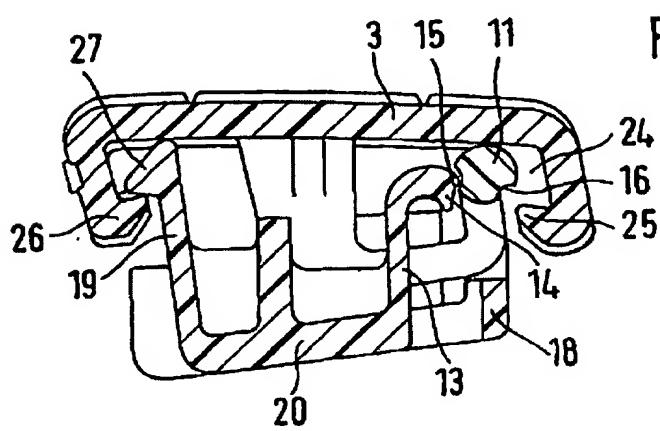


FIG.5

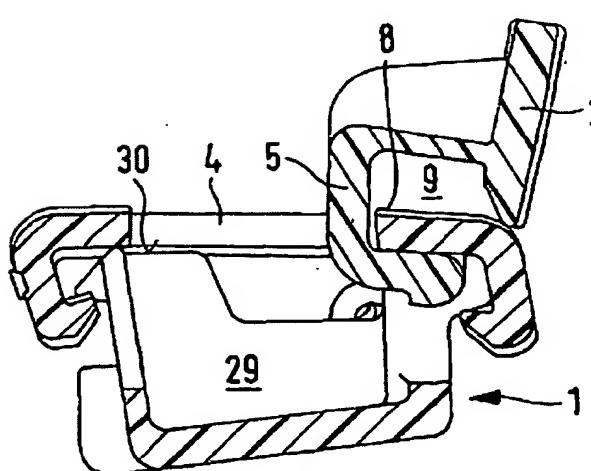


FIG. 6

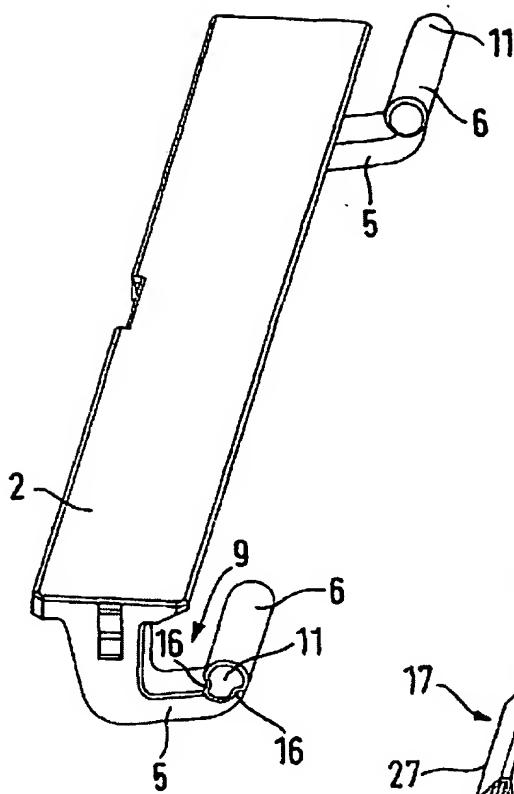


FIG. 7

